

Remarks

Claims 17-30, 47, 51-53, 55-56, 58-59, and 61-63 were rejected as unpatentable over JEYARAMAN 6,377,957 in view of BENSON et al. 6,202,085. Independent claims 17, 47, and 61-63 have been amended to clarify the composition of the updated minimum element. Reconsideration and withdrawal of the rejection are respectfully requested.

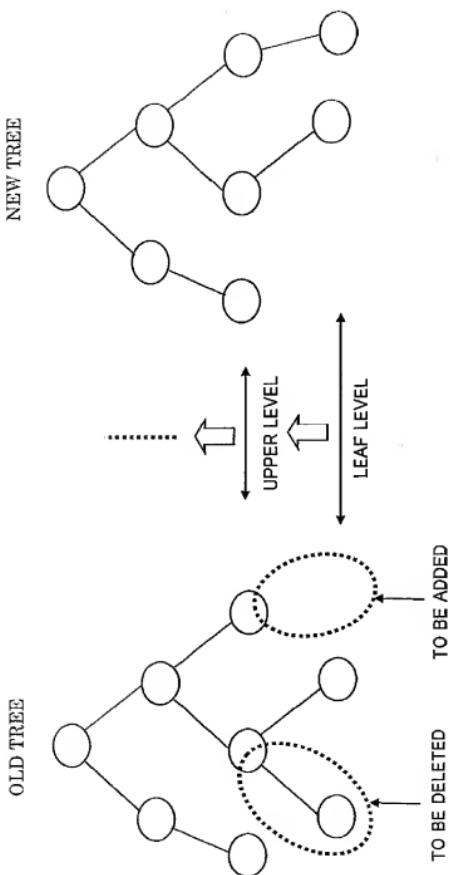
Neither JEYARAMAN nor BENSON et al. discloses that an update object is a minimum element which is a tree-structure portion of the structured document as defined in the amended claims. As defined herein, the updated minimum element has a minimum node tree structure including an updated tree-structured portion of the structured document and is determined by referring to its transfer object flag that is at the tag node at the top of the node tree structure. In the client device, the corresponding tree-structured minimum element is replaced with the identified updated tree-structured minimum element.

In order to make this distinction clearer, please consider the following three pages that include Reference Figures 1-3.

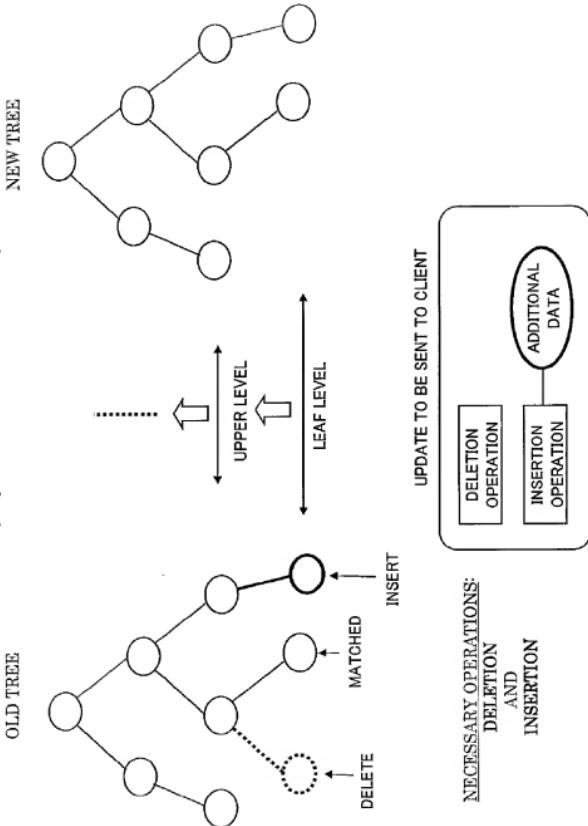
Reference Figure 1 shows an old tree (left) and a new tree (right). In this example, one leaf node is deleted and another one is added.

Reference Figure 2 shows the JEYARAMAN process. As shown in this figure, a set of deletion and insertion operations and

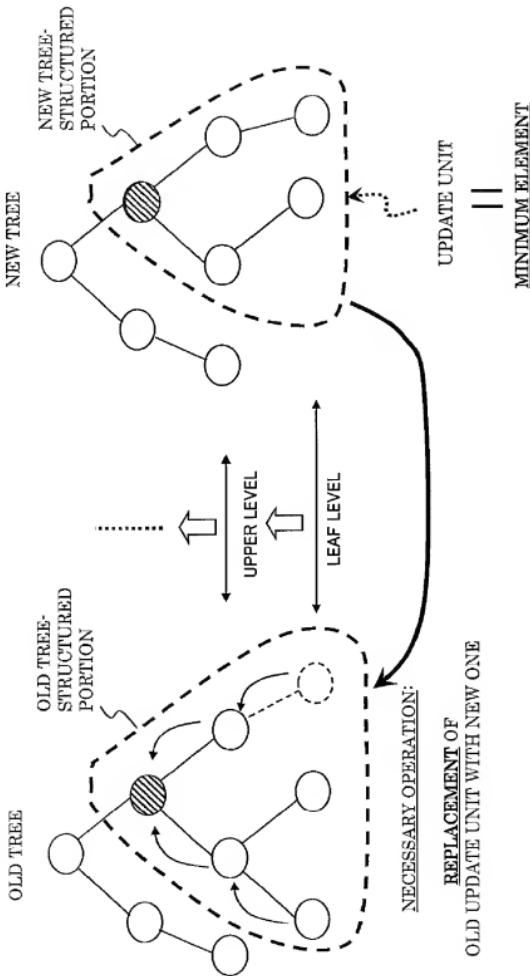
Reference FIG. 1



Reference FIG. 2  
(Jeyaraman:US6,377,957)



Reference FIG. 3  
(Present Invention)



additional data are sent as an update to the client device. At the client device, the deletion operation is performed to delete the corresponding leaf node from the old tree and then the insertion operation is performed to insert the corresponding new leaf node in the old tree. Thus, two operations, deletion and insertion, are needed at the client device.

Reference Figure 3 shows the operation of the present invention. A new tree-structured portion with a top node (diagonally shaded node) including updated nodes as its child nodes are sent as an updated tree-structured minimum element to the client device. At the client device, a corresponding tree-structured portion is replaced with the new tree-structured minimum element. Accordingly, only a replacement operation is needed at the client device. This is simpler than that of the JEYARAMAN process.

BENSON et al. do not make up for this shortcoming and thus the claims avoid the rejection under §103.

The dependent claims are allowable for similar reasons.

Please note that the "update time information" has been deleted from the independent claims as this feature is not essential to the current argument.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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